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THE FOREST SITUATION IN NORTHUMBERLAND, COLUMBIA AND MONTGOMERY
COUNTIES, PENNSYLVANIA



NORTHEASTERN FOREST EXPERIMENT STATION

NORTHEASTERN FOREST EXPERIMENT STATION

Philadelphia, Pa.

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* * * *

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This is the fifth of a series of seven brief reports on the forest condition in the counties of the Anthracite Forest Region. This region includes 15 counties shown on the map on the back of this publication, which contain or surround the hard-coal deposits of Pennsylvania. Because of basic similarities, Northumberland, Columbia and Montour Counties are treated together. The purpose is to present tabular data from the Anthracite Forest Survey for local use, together with enough general information about the three counties to make the forest situation understandable. Forest areas and present condition of the forest were determined through interpretation of aerial photographs, and the distribution of the major forest types was ascertained largely by reconnaissance. Data on species, size-classes, volume, and growth applicable to the several forest types and condition classes were collected by detailed field surveys.

Acknowledgment is made to John A. Buttrick and Donald F. Robinson for aid in compiling and writing the report, and to Robert Bartlett for preparation of charts and maps.

FOREST SITUATION IN NORTHUMBERLAND,
COLUMBIA, and MONTGOMERY COUNTIES
PENNSYLVANIA

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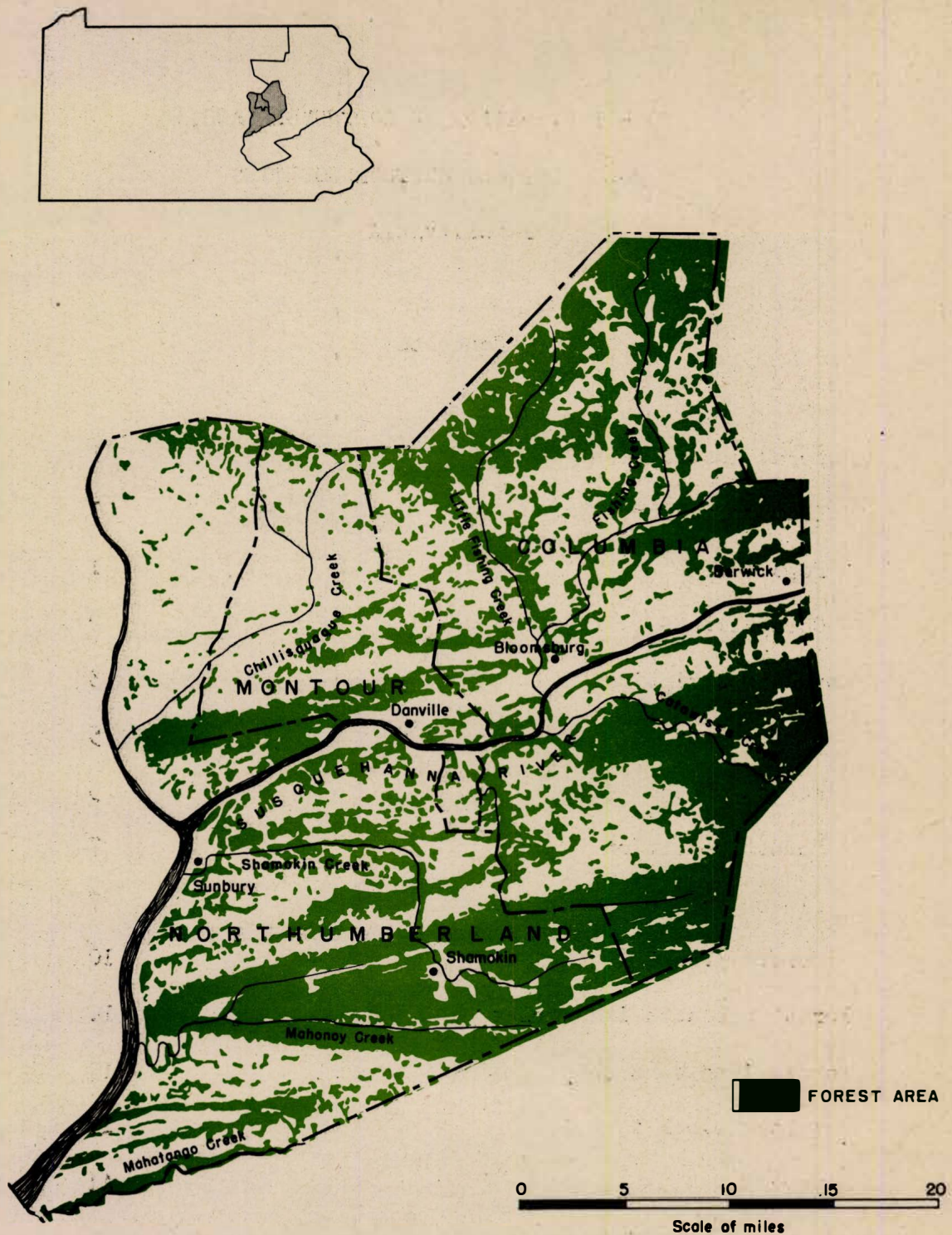


FIGURE 1.- FOREST AREA IN NORTHUMBERLAND, COLUMBIA, AND MONTOUR COUNTIES OF PENNSYLVANIA

THE FOREST SITUATION IN NORTHUMBERLAND, COLUMBIA, AND MONTOUR COUNTIES

Northumberland, Columbia, and Montour Counties present a complex picture; mining in the south, farming through the greater part of the north and central sections, and manufacture along both branches of the Susquehanna River. Except in Columbia County, the forests are of little economic importance, and even in Columbia they play a minor role.

General Description

Northumberland, Columbia, and Montour Counties lie in the foothill country between the Allegheny Plateau and the Appalachian chain. The southern rim of the plateau forms the northern boundary of Columbia. The southern parts of both Columbia and Northumberland are broken up by the narrow ridges and valleys which constitute the northernmost spur of the Appalachian chain. The north branch of the Susquehanna flows south and west through the middle of this territory. The west branch, which joins the north branch at Sunbury in Northumberland County, is the western boundary. The total area of the three counties is 1089 square miles, or 696,960 acres.

Transportation

Transportation facilities in the three counties are good. Three railroads, the Delaware, Lackawanna, and Western, the Pennsylvania, and the Reading, serve the entire area, and the Lehigh Valley provides additional freight service to the southern part of Northumberland County. There are about 900 miles of improved State highway and many miles of rural road, reaching to virtually all parts of the area. Buses provide passenger transportation to the principal towns.

Population

The population in 1940 was 193,766. This is an increase of over 47,000 since 1900, an increase which has occurred entirely in Northumberland and Columbia Counties and largely as a result of the development of the mining industry. The largest towns in the area are the boroughs of Shamokin and Mount Carmel in southern Northumberland, which had populations of 18,810 and 17,780 respectively in 1940, nearly a fifth of the total population of the three counties. Next largest are Sunbury, county seat of Northumberland County with a population of 15,507, and Berwick in Columbia County with a population of 13,115. Bloomsburg, the county seat of Columbia County and the only municipality in the State incorporated as a "town," has 9,799 inhabitants. And the county seat of Montour County, Danville, has 7,122. The greater part of the total population of the three counties is urban and industrial. Only 12 percent (23,781 persons) lives on farms.

Occupations

Manufacture provides the major source of income, with metal manufacture in the lead 1/. In 1940 the output of this industry was valued at about \$28,000,000, and the total wages paid amounted to somewhat more than \$6,000,000. By 1942 the output had increased under the impact of war-time demands to nearly \$274,000,000, and the wages to over \$29,000,000. This industry is located chiefly in Berwick, Bloomsburg, and Danville, along the north branch of the Susquehanna River, and in Milton on the west branch.

Next in importance is the textile industry, which in 1940 was running the metal industry a close second in value of output and was providing nearly twice as much employment, though the total wages paid out were only \$7,000,000. This industry has increased somewhat, but in no such proportions as the metal industry. Between 1940 and 1942 the output was increased from \$27,000,000 to \$39,000,000 and the wages from \$7,000,000 to \$11,000,000. The textile industry is scattered about in the industrial centers of the three counties, relying largely for its working personnel on the wives and daughters of the employees of the heavier industries.

In southern Columbia and adjoining parts of Northumberland Counties lies the western end of the western middle coal field, and here the principal industry is mining. According to the report of the Pennsylvania Department of Mines there were 5,525,830 tons of coal mined and 9061 persons employed in mining in 1940. By 1942 the output had been increased to 6,294,037 tons, but employment had dropped to 7984 2/. As appears from comparison with the Census figures, not all these employees were residents of these three counties.

North of the coal fields, to either side of the north branch of the Susquehanna River and running north to the forested region of Lycoming and Sullivan Counties, is a rolling country of sharp ridges and broad well-watered valleys devoted largely to agriculture. Here 253,000 acres, or 36 percent of the total area of the three counties, were in cropland in 1940. Altogether there are 4548 farms producing corn, truck produce, potatoes, poultry, and dairy products, with a total yearly value of approximately \$8,000,000 (1939).

1/ Tenth Industrial Directory of the Commonwealth of Penna.; Dept. of Internal Affairs; compiled by Bureau of Statistics, Harrisburg 1941.

2/ Pennsylvania Department of Mines.

OCCUPATIONS OF POPULATION: 3/

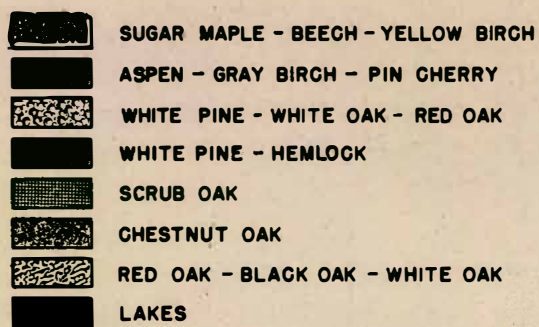
Total population		193,766	
Not in labor force		121,021	62%
In labor force		72,745	38%
Unemployed		18,166	25%
Employed		54,579	75%
Trade and service		20,075	38%
Manufacturing			
Metal	4,376)		
Textile	7,960)		
Food	1,286)	14,880	27%
Other	1,258)		
Coal mining		8,301	15%
Agriculture		5,821	11%
Transportation		2,886	5%
Construction		1,855	3%
Forest products industries			
Forestry	17)		
Logging	79)		
Milling	145)	672	1%
Wood manufacture	370)		
Paper manufacture	61)		
Quarrying and other mining		89	*

*negligible

Forest Description

The greater part of the forests of this area was cut off during the nineteenth century by farmers clearing land for agricultural use. In the decades immediately before and after the turn of the century commercial loggers cleared off the remaining stands. In a small way lumbering is still carried on, chiefly in Columbia County. And the more accessible stands in the neighborhood of the mines have been repeatedly reduced to unmerchantable condition by frequent clear-cutting for mine timbers.

3/ This table, based on the U. S. Census for 1940, indicates the primary occupations of the residents of Northumberland, Columbia, and Montour Counties. The figures given in the text, on the other hand, are based on the employment provided by industries located within these counties. Discrepancies are due to the fact that many people live in one area and work in another.



Type symbols indicate areas where the given types predominate, but the frequent local occurrence of other types is not precluded.

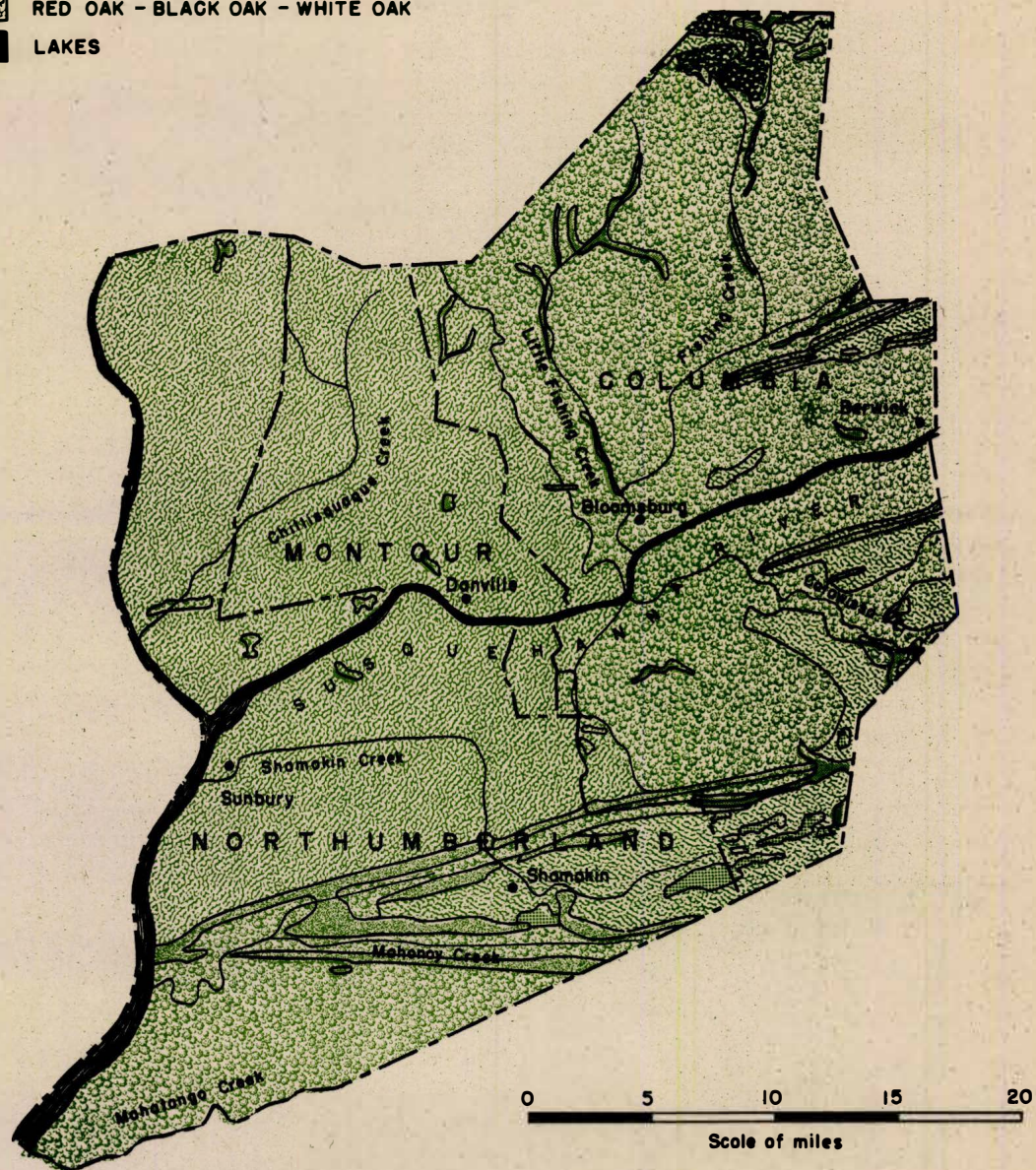


FIGURE 2. - AREAS CHARACTERIZED BY THE MAJOR FOREST TYPES IN NORTHUMBERLAND, COLUMBIA, AND MONTOUR COUNTIES

Forest area

Compared with other parts of the Anthracite Region, this three-county area has little forest land (fig. 1). Only 42 percent of the total area is in forest; and in Montour County only 28 percent is forested. The only extensive tracts are along the ridges, the rest being in scattered woodlots in predominantly agricultural areas. Really small tracts, however are not common. Over 85 percent of the forest land is in tracts of 50 acres or larger $\frac{4}{5}$.

	<u>NORTHUMBERLAND</u>		<u>COLUMBIA</u>		<u>MONTOUR</u>	
	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>	<u>Percent</u>
Forest land	121,700	41	148,100	47	23,200	28
Nonforest	178,800	59	164,500	53	60,400	72
Gross area	300,500	100	312,600	100	83,600	100

Forest types

Two forest types predominate in Northumberland, Columbia, and Montour Counties (fig. 2) $\frac{5}{5}$. Through most of Columbia County and in the southernmost portion of Northumberland is the white pine - white oak - red oak type. And the red oak - black oak - white oak type covers most of Northumberland, virtually all of Montour, and the western edge, the southern tip, and several small areas in the eastern part of Columbia. Other types occur in relatively small areas only. There is a little sugar maple - beech - yellow birch and a minute area of aspen - gray birch - pin cherry in the northern tip of Columbia. Chestnut oak is to be found along the ridges in southern Northumberland and in a lesser degree in central and southern Columbia. A few small areas of scrub oak have resulted from fire in the oak stands near the mines in Northumberland and Columbia Counties. Patches of almost pure Virginia pine and scarlet and black oak occur in Northumberland, and there is a small area of Virginia pine in southern Montour. Some hemlock and white pine - hemlock stands are to be found, chiefly in Columbia. And the river birch - sycamore type occurs along both branches of the Susquehanna River and on the banks of Mahanoy Creek.

4/ For detailed supplementary tables see Appendix

5/ Maps showing the location of all forest tracts are available in a scale 1" = 1 mile for each county; except for Columbia similar maps showing forest condition are also available. These maps may be ordered through the Northeastern Forest Experiment Station, 614 Bankers Securities Bldg., Philadelphia 7, Pa. A postal or express money order, draft, or check made out to the Treasurer of the United States, covering the full amount, should accompany the order. Prints will be forwarded from the Forest Service, Division of Engineering in Washington, D. C. Each map will cost: Northumberland County \$.68, Columbia County \$.44, Montour County \$.25.

NORTHUMBERLAND COUNTY

MERCHANTABLE STANDS

SAW-TIMBER

POLE-TIMBER

UNMERCHANTABLE STANDS

SAW-TIMBER LESS
THAN 10 ACRES

POLE-TIMBER LESS
THAN 10 ACRES

YOUNG GROWTH

SCRUB OAK

20,000 40,000 60,000 80,000
ACRES

COLUMBIA COUNTY

MERCHANTABLE STANDS

SAW-TIMBER

POLE-TIMBER

UNMERCHANTABLE STANDS

SAW-TIMBER LESS
THAN 10 ACRES

POLE-TIMBER LESS
THAN 10 ACRES

YOUNG GROWTH

SCRUB OAK-ASPEN

20,000 40,000 60,000 80,000
ACRES

MONTOUR COUNTY

MERCHANTABLE STANDS

SAW-TIMBER

POLE-TIMBER

UNMERCHANTABLE STANDS

SAW-TIMBER LESS
THAN 10 ACRES

POLE-TIMBER LESS
THAN 10 ACRES

YOUNG GROWTH

20,000 40,000 60,000 80,000
ACRES

Figure 3.— THE CONDITION OF THE FOREST

Forest condition

The condition of the forests in these three counties varies from one section to another; but nowhere is it really good (fig. 3) 6/. In Columbia County 6 percent of the forest area is in saw-timber stands and 22 percent in pole-timber stands. In Northumberland and Montour Counties 91 percent of the area is unmerchantable, and only a little more than 1 percent is in saw-timber stands.

Timber volume

The volume of saw timber and the green weight of all timber are shown in the following table 7/.

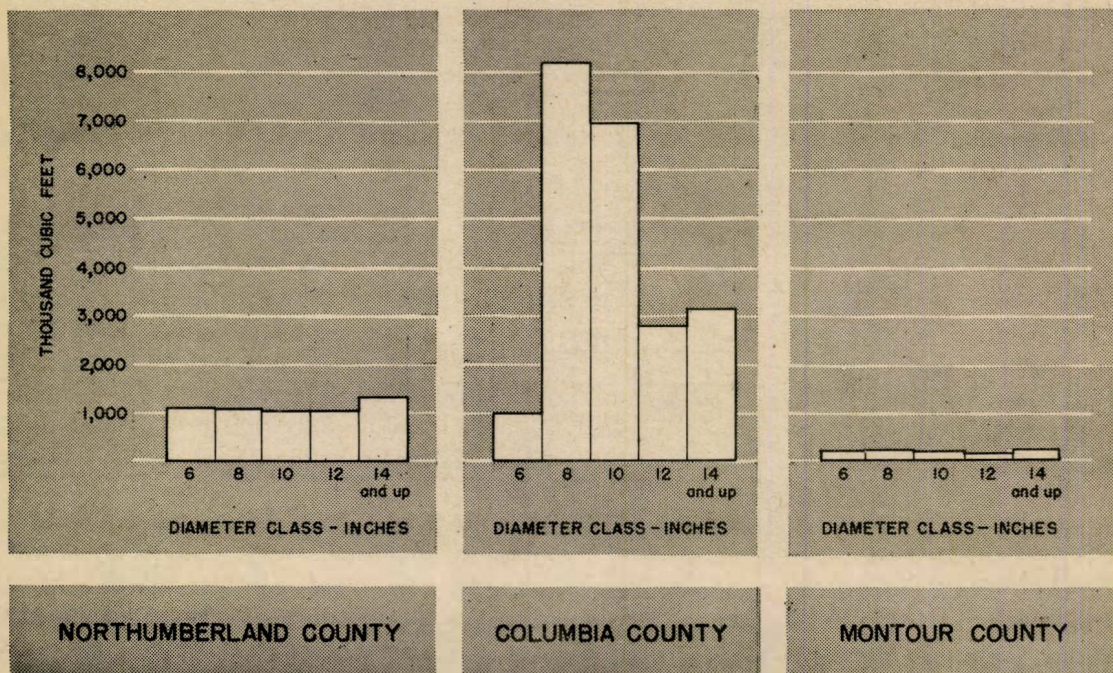
	<u>NORTHUMBERLAND</u>		<u>COLUMBIA</u>		<u>MONTOUR</u>	
	Saw	green	Saw	green	Saw	green
	timber	weight	timber	weight	timber	weight
	M bd.ft.	Tons	M bd.ft.	Tons	M bd.ft.	Tons
Saw-timber stands	6,000	67,400	36,700	376,600	1,000	12,000
Pole-timber stands	10,500	146,600	26,300	625,800	1,400	28,200
Unmerchantable stands	31,700	598,900	78,400	1483,600	5,700	124,200
Total	48,200	812,900	141,400	2486,000	8,100	164,400

The distribution of the cubic-foot volume in the pole-timber stands by tree size may be seen in figure 4. Over two-thirds of the green weight of all timber is in oaks. Other hardwoods in Columbia County are chiefly in the sugar maple - beech - yellow birch area in the north. In Northumberland County there is an appreciable proportion in conifers.

6/ The condition classes recognized are; 1. Saw-timber stands; stands of 10 acres or larger, each of which contains at least 2000 board feet of saw timber. 2. Pole-timber stands; stands of 10 acres or larger, each acre of which contains a minimum timber volume of approximately 5 standard cords in trees 5.0 inches diameter breast high (hereafter denoted by the initials d.b.h.) and larger, and less than 2000 board feet of saw timber. 3. Unmerchantable stands; areas of forest land which contain less than the minimum volume for pole-timber stands, plus stands of saw timber and pole timber of less than 10 acres in extent, whether isolated tracts or stands within larger forest areas.

7/ Saw-timber volume is the net board foot of sawlog-size material in conifers 9.0 inches d.b.h. and larger, plus the net volume of sawlog-size material in hardwoods 11 inches d.b.h. and larger. Board foot volumes were based on the International 1/4" log rule, which closely approximates green lumber tally. Deductions were made for cull. Total green weight is the weight of all trees 5.0 inches and larger, including bark and the tops and limbs to a 4-inch diameter. This was computed in cubic feet and converted to tons (green weight) by the application of cubic foot-per-ton factors, varying by species groups and averaging about 35 cubic feet per ton.

Figure 4. - CUBIC FOOT VOLUME IN MERCHANTABLE POLE - TIMBER STANDS
BY DIAMETER CLASS - ALL SPECIES.

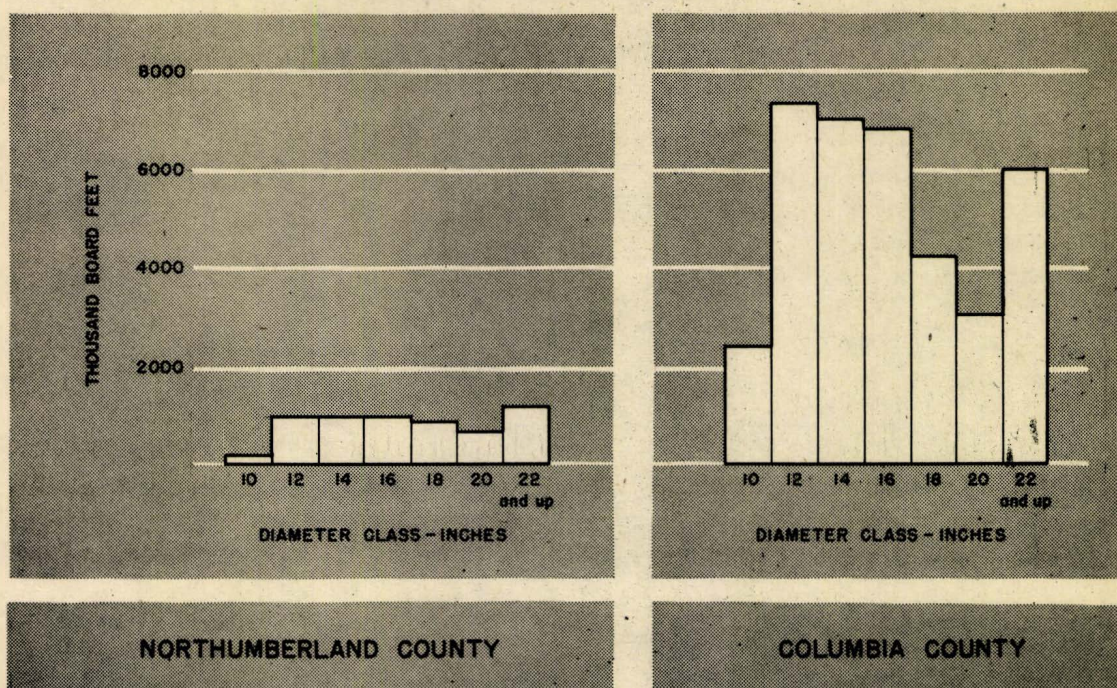


	NORTHUMBERLAND		COLUMBIA		MONTOUR	
	Tons	Percent	Tons	Percent	Tons	Percent
Conifers	32,000	22	64,200	10	1,900	7
Oaks, hickory, sugar maple	95,400	65	439,300	70	13,200	82
Other hardwoods	19,200	13	122,300	20	3,100	11
Total	146,600	100	625,800	100	28,200	100

Over 80 percent of the area in saw-timber stands is in Columbia County, and throughout the three counties the bulk of the volume is in young stands. Nearly 60 percent of the area bears less than 4,000 board feet to the acre, and only 9 percent has as much as 8000 to the acre.

M bd.ft. per Acre	NORTHUMBERLAND		COLUMBIA		MONTOUR	
	Acres	M bd.ft.	Acres	M bd.ft.	Acres	M bd.ft.
8 and more	130	1,200	900	8,400	20	170
6 to 8	150	1,000	1,000	6,400	30	210
4 to 6	260	1,100	2,000	8,800	20	110
2 to 4	1,060	2,700	5,200	13,100	230	510
Total	1,600	6,000	9,100	36,100	300	1,000

Figure 5.-BOARD FOOT VOLUME IN MERCHANTABLE SAW-TIMBER STANDS
BY DIAMETER CLASSES - ALL SPECIES.



The species in the saw-timber stands is much the same in Northumberland and Montour Counties as that of timber in the pole-timber stands. In Columbia County, however, there is almost as high a percentage in conifers as in oaks.

	NORTHUMBERLAND		COLUMBIA		MONTOUR	
	M bd.ft.	Percent	M bd.ft.	Percent	M bd.ft.	Percent
Conifers	1,200	20	15,300	42	100	10
Oaks, hickory, sugar maple	3,600	60	15,700	43	700	70
Other hardwoods	1,200	20	5,700	15	200	20
Total	6,000	100	36,700	100	1,000	100

The distribution of this volume in saw-timber stands by tree size may be seen in figure 5 ^{8/}.

^{8/} The 1 million board feet of saw timber in Montour County is distributed approximately as follows;

10% in 12-inch trees, 20% in 14-inch, 20% in 16-inch, 20% in 18-inch, 10% in 20-inch, and 20% in trees 22 inches and larger in d.b.h.

Current forest growth

The following table shows the total timber growth and the saw-timber growth of the different condition classes in the three counties:

	<u>NORTHUMBERLAND</u>	<u>COLUMBIA</u>	<u>MONTOUR</u>
<u>Total timber growth</u>	<u>M cu.ft.</u>	<u>M cu.ft.</u>	<u>M cu.ft.</u>
Saw-timber stands	72	460	12
Pole-timber stands	314	1,288	55
Unmerchantable stands	<u>1,907</u>	<u>4,129</u>	<u>434</u>
Total timber growth	2,293	5,877	501
 <u>Saw-timber growth</u>	 <u>M bd.ft.</u>	 <u>M bd.ft.</u>	 <u>M bd.ft.</u>
Saw-timber stands	250	1,560	40
Pole-timber stands	780	2,040	100
Unmerchantable stands	<u>2,100</u>	<u>5,400</u>	<u>380</u>
Total saw-timber growth	3,130	9,000	520

Forest Products Industries

The place of the forests in the economy of these three counties is small. Only one percent of the employment of the area, two-thirds of which is in paper or furniture manufacture, is for forest products industries. Furthermore, these industries import virtually all of their raw material, ever so small an amount being from native resources. Yet, for all that, many of those who are primarily engaged in agriculture or some other related occupation owe their living in part to the forests of the area. The number of sawmills by production classes is shown in the following table. There are no mills in Montour County.

<u>Production class</u>	<u>NORTHUMBERLAND</u>	<u>COLUMBIA</u>
<u>Thousand board feet</u>	<u>Number of mills</u>	
Idle	1	4
1 to 50	3	2
50 to 500	5	14
500 to 1000	<u>0</u>	<u>2</u>
Total	9	22

Forest Land Ownership

91 percent of the forest land in these three counties is privately owned. Of the total area, 8 percent belongs to coal companies, 5 percent to water companies, 28 percent to farmers, and 50 percent to other private owners. Of the publicly-owned land, four-fifths, most of it ridge country, is under administration by the State Game Commission, and the rest by the counties.

The ownership distribution of the forest land is as follows:

	<u>NORTHUMBERLAND</u> <u>Acres</u>	<u>COLUMBIA</u> <u>Acres</u>	<u>MONTGOMERY</u> <u>Acres</u>
Public ownership			
State Game Commission	9,400	12,600	200
County	<u>1,600</u>	<u>3,200</u>	<u>300</u>
Total public ownership	11,000	15,800	500
Private ownership			
Coal companies	20,000	4,900	--
Water companies	8,000	5,100	500
Farmers	29,100	41,500	11,300
Others	<u>53,600</u>	<u>80,800</u>	<u>10,900</u>
Total private ownership	110,700	132,300	22,700

Future Outlook in Brief

The forests of these three counties are in an extremely depleted condition, especially those above and adjacent to the coal measures. Almost without exception, however, they are potentially productive and care and common sense will bring them back to merchantability. Oak is the predominant species and gives promise of future utilization for high quality products - of furniture, cooperage, flooring. White pine is an important component of many of these stands, largely in the farm woodland section, and a large proportion of the needs of the area for softwood lumber could be filled through the encouragement of this species. Some forest land owners in this section have already adopted sound management practices for their woodlands and it should be possible to expand this nucleus of interest.

Development of productive forests will require aggressive action on the part of landowners, public agencies, and the citizens generally. The principal needs of the area are:

1. Continued progress in the prevention and control of forest fires. The State Department of Forests and Waters has made real progress in the control of forest fires in these counties during the last twenty-five years. Progressive methods which have stimulated local support for their program have been used. Forest fires are still a major problem in the coal fields, however, and efforts to reduce their numbers and the area burned annually should be further intensified.

2. Stop clear-cutting and improve timber stands. In the neighborhood of the mines the forests have been clear cut as soon as they would produce mine timbers. For some years to come the mines in this area will require mine timbers and these should be produced as economically as

possible. Already in sections more remote from the mines and ultimately, with the exhaustion of the coal resources, near the mines, management for the production of higher quality material is called for. Thinnings which will improve the species composition and the quality of the stands could provide a large proportion of the mine timber requirements. Eventually, the industries of the area which are now dependent upon imported raw materials would be able to rely on local supplies.

3. Waste areas should be planted and the composition of many stands could be improved by planting. The forests near the mines have been so devastated by cutting and repeated fires that it will usually require planting of commercial species to restore these areas to fully-productive forests. Large areas have been laid waste through stripping and the establishment of mine waste banks. Although planting of such areas would add little to the commercial forests, they would serve to reduce the silting of streams and the blowing of coal dust, and improve the appearance of this section. Some open areas in the farming section might well be restored to forest, especially to conifers.

4. Public ownership should be increased. It will require so many years to restore productive forests to the coal field section of Northumberland and Columbia counties that public ownership is probably desirable for a large portion of this area. Elsewhere, some consolidation of public ownership along the ridges may be called for but generally the forests are potentially productive and continued private ownership can be profitable under sound management.

APPENDIX

Tables 1 to 9 - Northumberland County

Tables 1 to 9 - Columbia County

Tables 1 to 9 - Montour County

NORTHUMBERLAND COUNTY

Table 1.--Land use

<u>Land use</u>	<u>Area</u> <u>Acres</u>	<u>Proportion</u> <u>of class</u> <u>Percent</u>	<u>Proportion</u> <u>of gross area</u> <u>Percent</u>
Forest <u>1/</u>			
Tracts less than 10 acres	4,100	3.2	1.3
Tracts 10 up to 50 acres	8,900	7.4	3.0
Tracts 50 acres and over	108,700	89.4	36.2
All forest land	121,700	100.0	40.5
Nonforest			
Cropland <u>2/</u>	102,000	57.1	34.0
Mine waste <u>1/</u>	5,600	3.1	1.8
Water <u>2/</u>	10,500	5.9	3.5
Other	60,700	33.9	20.2
All nonforest land	178,800	100.0	59.5
Gross area	300,500	100.0	100.0

1/ Based on aerial photographs taken in 1938 - 39.

2/ Bureau of the Census, 1940.

NORTHUMBERLAND COUNTY

Table 2.--Forest area by minor civil division

Civil division ^{1/}	Gross area <u>Acres</u>	Nonforest area <u>Acres</u>	Forest area <u>Acres</u>	Proportion gross area in forest <u>Percent</u>	Proportion of county forest land <u>Percent</u>
Coal t., Shamokin b.	17,400	4,000	13,400	76.9	11.0
Delaware t., McEwensville b., Watsontown b.	20,200	14,700	5,500	27.0	4.5
E. Cameron t.	7,600	1,200	6,400	84.4	5.3
E. Chillisquaque t.	4,900	3,800	1,100	21.6	0.9
Gearhart t., and River- side b.	3,800	2,600	1,200	32.3	1.0
Jackson t., Herndon b.	9,400	6,500	2,900	30.5	2.4
Jordan t.	10,900	7,000	3,900	35.6	3.2
Lewis t., Turbotville b.	17,100	14,000	3,100	18.3	2.6
Little Mahanoy t.	7,100	1,900	5,200	73.7	4.3
Lower Augusta t.	13,100	8,300	4,800	36.6	4.0
Lower Mahanoy t.	16,500	12,400	4,100	24.8	3.4
Mt. Carmel t., Kulpmont b., Marion Hts. b., and Mt. Carmel b.	14,500	4,200	10,300	70.8	8.4
Point t., Northumberland b.	18,200	10,600	7,600	41.5	6.2
Ralpho t.	11,900	7,800	4,100	34.9	3.4
Rockefeller t.	12,800	9,600	3,200	25.1	2.6
Rush t.	16,900	11,200	5,700	33.8	4.7
Shamokin t., Snyderstown b.	21,800	13,000	8,800	40.3	7.2
Turbut t., Milton b.	10,400	9,200	1,200	12.0	1.0
Upper Augusta t., Sunbury c.	15,700	10,400	5,300	33.5	4.3
Upper Mahanoy t.	14,600	9,400	5,200	35.4	4.2
Washington t.	11,600	8,200	3,400	29.5	2.8
W. Cameron t.	7,800	1,000	6,800	87.7	5.6
W. Chillisquaque t.	9,100	7,100	2,000	21.8	1.6
Zerbe t.	7,200	700	6,500	90.2	5.4
All civil divisions	300,500	178,800	121,700	40.5	100.0

^{1/} Abbreviations: t. = township; b. = borough; c. = city.

NORTHUMBERLAND COUNTY

Table 3.--Forest area by forest types and conditions

Forest type	Saw-timber Stands		Pole-timber stands		Unmerchantable stands		All stands	
	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>	<u>Percent</u>
White pine - hemlock	100	6.2	300	3.3	400	0.4	800	0.7
White pine - white oak - red oak	500	31.3	3,400	37.8	27,800	25.0	31,700	26.0
White oak - red oak - black oak	900	56.3	4,400	48.9	60,400	54.4	65,700	54.0
Chestnut oak	--	--	700	7.8	19,100	17.2	19,800	16.3
Scrub oak	--	--	--	--	1,700	1.5	1,700	1.4
Other	100	6.2	200	2.2	1,700	1.5	2,000	1.6
All types	1,600	100.0	9,000	100.0	111,100	100.0	121,700	100.0

NORTHUMBERLAND COUNTY

Table 4.--Volume by Forest types

Forest type	Saw-timber volume	Total volume
	M bd.ft.	M cu.ft.
Sugar maple - beech - yellow birch	---	---
Aspen - gray birch - pin cherry	---	---
White pine - hemlock	700	380
White pine - white oak - red oak	14,900	9,430
Red oak - black oak - white oak	27,400	16,070
Chestnut oak	3,700	2,870
Scrub oak	---	60
Other	1,500	980
All forest types	48,200	29,790

NORTHUMBERLAND COUNTY

Table 5.--Forest area by forest conditions and volume-per-acre classes

Forest condition and volume-per-acre classes	Area	Proportion of each condition	Proportion of total forest land
	<u>Acres</u>	<u>Percent</u>	<u>Percent</u>
Merchantable;			
Saw-timber stands <u>1/</u> (bd. ft. per acre)			
8,000 and over	130	8.1	0.1
6,000 to 7,999	150	9.4	0.1
4,000 to 5,999	260	16.2	0.2
2,000 to 3,999	1,060	66.3	0.9
All saw-timber stands	1,600	100.0	1.3
Pole-timber stands <u>2/</u> (cords per acre)			
10.0 and over	1,700	18.9	1.4
5.0 to 9.9	7,300	81.1	6.0
All pole-timber stands	9,000	100.0	7.4
All merchantable stands	10,600		8.7
Unmerchantable;			
Saw-timber stands less than 10 acres	4,400		3.6
Pole-timber stands less than 10 acres	16,400		13.5
Young growth stands	88,600		72.8
Scrub oak stands	1,700		1.4
All unmerchantable stands	111,100		91.3
All forest land	121,700		100.0

1/ In stands 10 acres or larger each acre of which has at least 2,000 board feet (lumber tally)

2/ In stands 10 acres or larger each acre of which has at least 5 cords (400 cubic feet) but less than 2,000 board feet.

NORTHUMBERLAND COUNTY

Table 6.--Volume by forest conditions and volume-per-acre classes

Forest condition and volume-per-acre classes	Saw-timber volume (lumber tally) 1/		Total volume (including bark)			
	M bd.ft.	Percent	M cu.ft.	Percent	Cords	Tons
Merchantable;						
Saw-timber stands (bd.ft. per acre)						
8,000 and over	1,200	2.5	320	1.1	4,200	9,200
6,000 to 7,999	1,000	2.1	330	1.1	4,300	9,400
4,000 to 5,999	1,100	2.3	410	1.4	5,400	11,700
2,000 to 3,999	2,700	5.5	1,300	4.3	17,100	37,100
All saw-timber stands	6,000	12.4	2,360	7.9	31,000	67,400
Pole-timber stands (cords per acre)						
10.0 and over	3,400	7.1	1,510	5.1	19,400	40,300
5.0 to 9.9	7,100	14.7	3,980	13.3	51,200	106,300
All pole-timber stands	10,500	21.8	5,490	18.4	70,600	146,600
All merchantable stands	16,500	34.2	7,850	26.3	101,600	214,000
All unmerchantable stands	31,700	65.8	21,940	73.7	292,500	598,900
All forest land	48,200	100.0	29,790	100.0	394,100	812,900

1/ Based on the International 1/4-inch rule which closely approximates green lumber tally.

NORTHUMBERLAND COUNTY

Table 7.—Volume in merchantable stands by species groups

Merchantable class and species group	Saw-timber volume (lumber tally)		Total volume (including bark)					
	M bd.ft.	Percent	M cu.ft.	Percent	Cords 1/	Percent	Tons 2/	Percent
Saw-timber stands								
Conifers	1,200	20.0	320	13.6	3,800	12.1	6,100	9.0
Oaks and hickory	3,600	60.0	1,680	71.1	22,400	72.4	52,000	77.2
Other hardwoods	1,200	20.0	360	15.3	4,800	15.5	9,300	13.8
All species	6,000	100.0	2,360	100.0	31,000	100.0	67,400	100.0
Pole-timber stands								
Conifers	4,700	45.3	1,680	30.6	19,800	28.0	32,000	21.8
Oaks and hickory	4,500	42.2	3,080	56.1	41,100	58.2	95,400	65.1
Other hardwoods	1,300	12.5	730	13.3	9,700	13.8	19,200	13.1
All species	10,500	100.0	5,490	100.0	70,600	100.0	146,600	100.0
All merchantable stands	16,500		7,850		101,600		214,000	

1/ Based on 85 cubic feet per cord for conifers and 75 cubic feet per cord for hardwoods.

2/ Based on cubic feet-per-ton converting factors for the principal species.

NORTHUMBERLAND COUNTY

Table 8.--Board foot volume in merchantable saw-timber stands
by diameter classes and species groups

Diameter class (d.b.h.) (Inches)	Conifers 1/		Oaks, hickory 2/		Other hardwoods 3/		All species	
	M bd.ft.	Percent	M bd.ft.	Percent	M bd.ft.	Percent	M bd.ft.	Percent
10	200	12.5					200	3.3
12	200	14.2	500	12.8	300	22.5	1,000	16.7
14	200	15.8	600	15.8	200	20.0	1,000	16.7
16	200	15.0	600	18.1	200	17.5	1,000	16.7
18	200	20.0	500	14.4	200	13.3	900	15.0
20	100	12.5	500	13.3	100	9.2	700	11.6
22 & up	100	10.0	900	25.6	200	17.5	1,200	20.0
All classes	1,200	100.0	3,600	100.0	1,200	100.0	6,000	100.0

1/ Principally white pine, hemlock, and pitch pine.

2/ Principally white and red oak, with some hickory and chestnut, black, and scarlet oak.

3/ Principally red maple, black birch, and white ash, with some walnut, black locust, sycamore, willow, basswood, elm, and black gum.

NORTHUMBERLAND COUNTY

Table 9.--Cubic foot volume in merchantable pole-timber stands by diameter classes and species groups

Diameter class (d.b.h.)	Conifers <u>1/</u>			Oaks and hickory <u>2/</u>			Other hardwoods <u>3/</u>			All species		
<u>Inches</u>	<u>M cu.ft.</u>	<u>Percent</u>	<u>Tons</u>	<u>M cu.ft.</u>	<u>Percent</u>	<u>Tons</u>	<u>M cu.ft.</u>	<u>Percent</u>	<u>Tons</u>	<u>M cu.ft.</u>	<u>Percent</u>	<u>Tons</u>
6	190	11.3	3,600	670	21.8	20,800	230	31.5	6,100	1,090	19.8	30,500
8	270	16.1	5,200	630	20.5	19,500	170	23.3	4,500	1,070	19.5	29,200
10	370	22.0	7,000	520	16.9	16,100	130	17.8	3,400	1,020	18.6	26,500
12	430	25.6	8,200	490	15.9	15,200	100	13.7	2,600	1,020	18.5	26,000
14 & up	420	25.0	8,000	770	25.0	23,800	100	13.7	2,600	1,290	23.5	34,400
All classes	1,680	100.0	32,000	3,080	100.0	95,400	730	100.0	19,200	5,490	100.0	146,600

1/ Principally white pine, hemlock and pitch pine, with some Virginia pine.

2/ Principally white, red, and chestnut oak with some black oak and scarlet oak.

3/ Principally red maple and black birch with some walnut, aspen, sycamore, willow, black locust, elm, yellow birch, red birch, basswood, black gum, dogwood, and beech.

COLUMBIA COUNTY

Table 1.--Land use

<u>Land use</u>	<u>Area</u> <u>Acres</u>	<u>Proportion</u> <u>of class</u> <u>Percent</u>	<u>Proportion</u> <u>of gross area</u> <u>Percent</u>
Forest <u>1/</u>			
Tracts less than 10 acres	6,800	4.6	2.2
Tracts 10 up to 50 acres	11,900	8.0	3.3
Tracts 50 acres and over	129,400	87.4	41.4
All forest land	148,100	100.0	47.4
Nonforest			
Cropland <u>2/</u>	108,800	66.2	34.8
Mine waste <u>1/</u>	2,200	1.3	0.7
Water <u>2/</u>	2,600	1.6	0.8
Other	50,900	30.9	16.3
All nonforest land	164,500	100.0	52.6
Gross area	312,600	100.0	100.0

1/ Based on aerial photographs taken in 1938 - 1939.2/ Bureau of the Census, 1940.

COLUMBIA COUNTY

Table 2.--Forest area by minor civil divisions

Civil Division <u>1/</u>	Gross area <u>Acres</u>	Nonforest area <u>Acres</u>	Forest area <u>Acres</u>	Proportion gross area in forest <u>Percent</u>	Proportion of county forest land <u>Percent</u>
Beaver t.	22,600	5,200	17,400	77.1	11.7
Benton t., Benton b.	12,900	8,400	4,500	35.2	3.0
Briar Creek t., Briar Creek b. and Berwick b.	16,300	9,300	7,000	42.8	4.7
Catawissa t. and Catawissa b.	8,600	5,100	3,500	40.4	2.4
Cleveland t.	15,200	8,800	6,400	42.4	4.3
Coryngham t. and Ashland b. and Centralia b. <u>2/</u>	13,600	2,000	11,600	85.2	7.8
Fishingcreek t. and Stillwater b.	20,600	11,200	9,400	45.7	6.3
Franklin t.	8,500	5,900	2,600	30.6	1.8
Greenwood t. and Millville b.	18,500	11,100	7,400	40.0	5.0
Hemlock t.	10,900	7,400	3,500	32.3	2.4
Locust t.	11,300	7,700	3,600	31.5	2.4
Jackson t.	12,500	5,900	6,600	53.0	4.5
Madison t.	22,800	13,300	9,500	41.6	6.4
Main t.	10,800	5,400	5,400	49.9	3.6
Mifflin t.	12,800	7,900	4,900	38.2	3.3
Montour t.	6,100	4,200	1,900	31.3	1.3
Mt. Pleasant t.	10,800	7,400	3,400	31.4	2.3
North Centre t.	10,400	7,100	3,300	32.2	2.2
Orange t., Orangeville b.	8,400	5,600	2,800	33.0	1.9
Pine t.	16,300	5,700	10,600	64.7	7.2
Roaring Creek t.	15,200	5,200	10,000	66.1	6.8
Scott t., Bloomsburg t.	7,800	7,200	600	7.3	0.4
South Centre t.	2,800	2,700	100	4.6	0.1
Sugarloaf t.	16,900	4,800	12,100	71.6	8.2
All civil divisions	312,600	164,500	148,100	47.4	100.0

1/ Abbreviations; t. - township; b - borough.

2/ Includes only that part of Ashland b. that is in Columbia County.

COLUMBIA COUNTY

Table 3.--Forest area by forest types and conditions

Forest type	Saw-timber stands		Pole-timber stands		Unmerchantable stands		All stands	
	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>	<u>Percent</u>
Northern hardwoods	400	4.4	900	2.8	1,400	1.3	2,700	1.8
Aspen - gray birch - pin cherry	--	--	--	--	300	0.3	300	0.2
White pine - hemlock	1,500	16.5	2,200	6.8	4,500	4.2	8,200	5.5
White pine - white oak - red oak	5,200	57.1	22,500	69.1	66,800	62.7	94,500	63.9
White oak - red oak - black oak	1,800	19.8	6,200	19.1	26,700	25.1	34,700	23.4
Chestnut oak	200	2.2	700	2.2	4,500	4.2	5,400	3.6
Scrub oak	--	--	--	--	1,900	1.8	1,900	1.3
Other	--	--	--	--	400	0.4	400	0.3
All types	9,100	100.0	32,500	100.0	106,500	100.0	148,100	100.0

COLUMBIA COUNTY

Table 4.--Volume by forest types

Forest type	Saw-timber volume	Total Volume
	M bd.ft.	M cu.ft.
Sugar maple - beech - yellow birch	4,100	2,250
Aspen - gray birch - pin cherry	80	80
White pine - hemlock	15,500	6,920
White pine - white oak - red oak	91,100	59,200
Red oak - black oak - white oak	27,900	17,790
Chestnut oak	2,600	1,970
Scrub oak	70	70
Other	200	160
All forest types	141,400	88,440

Table 5.--Forest area by forest conditions and volume-per-acre classes

Forest condition and volume-per-acre classes	Area	Proportion of each condition	Proportion of total forest land
	<u>Acres</u>	<u>Percent</u>	<u>Percent</u>
Merchantable:			
Saw-timber stands ^{1/} (bd.ft. per acre)			
8,000 and over	900	9.9	0.6
6,000 to 7,999	1,000	11.0	0.7
4,000 to 5,999	2,000	22.0	1.4
2,000 to 3,999	5,200	57.1	3.5
All saw-timber stands	9,100	100.0	6.2
Pole-timber stands ^{2/} (cords per acre)			
10.0 and over	12,000	36.9	8.1
5.0 to 9.9	20,500	63.1	13.8
All pole-timber stands	32,500	100.0	21.9
All merchantable stands	41,600		28.1
Unmerchantable:			
Saw-timber stands less than 10 acres	12,300		8.3
Pole-timber stands less than 10 acres	34,900		23.6
Young growth stands	57,100		38.5
Aspen stands	300		0.2
Scrub oak stands	1,900		1.3
All unmerchantable stands	106,500		71.9
All forest land	148,100		100.0

^{1/} In stands 10 acres or larger each acre of which has at least 2,000 board feet (lumber tally).

^{2/} In stands 10 acres or larger each acre of which has at least 5 cords (400 cubic feet) but less than 2,000 board feet.

COLUMBIA COUNTY

Table 6.--Volume by forest conditions and volume-per-acre classes

Forest condition and volume-per-acre classes	Saw-timber volume (lumber tally) ^{1/}		Total volume (including bark)			
	<u>M bd.ft.</u>	<u>Percent</u>	<u>M cu.ft.</u>	<u>Percent</u>	<u>Cords</u>	<u>Tons</u>
Merchantable:						
Saw-timber stands (bd. ft. per acre)						
8,000 and over	8,400	5.9	2,360	2.7	30,300	63,300
6,000 to 7,999	6,400	4.5	2,090	2.4	26,800	56,100
4,000 to 5,999	8,800	6.2	3,410	3.8	43,600	91,100
2,000 to 3,999	13,100	9.3	6,210	7.0	79,500	166,100
All saw-timber stands	36,700	25.9	14,070	15.9	180,200	376,600
Pole-timber stands (cords per acre)						
10.0 and over	13,000	9.2	9,840	11.1	129,000	279,700
5.0 to 9.9	13,300	9.4	12,160	13.8	159,500	346,100
All pole-timber stands	26,300	18.6	22,000	24.9	288,500	625,800
All merchantable stands	63,000	44.5	36,070	40.8	468,700	1,002,400
All unmerchantable stands	78,400	55.5	52,370	59.2	698,200	1,483,600
All forest land	141,400	100.0	88,440	100.0	1,166,900	2,486,000

^{1/} Based on the International 1/4-inch rule which closely approximates green lumber tally.

COLUMBIA COUNTY

Table 7.--Volume in merchantable stands by species groups

Merchantable class and species group	Saw-timber volume (lumber tally)		Total volume (including bark)					
	<u>M bd.ft.</u>	<u>Percent</u>	<u>M cu.ft.</u>	<u>Percent</u>	<u>Cords 1/</u>	<u>Percent</u>	<u>Tons 2/</u>	<u>Percent</u>
Saw-timber stands								
Conifers	15,300	41.8	4,700	33.4	55,300	30.7	101,100	26.8
Oaks, hickory, and hard maple	15,700	42.6	6,430	45.7	85,700	47.5	198,500	52.8
Other hardwoods	5,700	15.6	2,940	20.9	39,200	21.8	77,000	20.4
All species	36,700	100.0	14,070	100.0	180,200	100.0	376,600	100.0
Pole-timber stands								
Conifers	8,200	31.2	3,100	14.1	36,500	12.6	64,200	10.3
Oaks, hickory, and hard maple	15,500	58.9	14,190	64.5	189,200	65.6	439,300	70.2
Other hardwoods	2,600	9.9	4,710	21.4	62,800	21.8	122,300	19.5
All species	26,300	100.0	22,000	100.0	288,500	100.0	625,800	100.0
All merchantable stands	63,000		36,070		468,700		1,002,400	

1/ Based on 85 cubic feet per cord for conifers and 75 cubic feet per cord for hardwoods.

2/ Based on cubic feet-per-ton converting factors for the principal species.

COLUMBIA COUNTY

Table 8.--Board foot volume in merchantable saw-timber stands
by diameter classes and species groups

Diameter class (d.b.h.) (Inches)	Conifers <u>1/</u>		Oaks, hickory, hard maple <u>2/</u>		Other hardwoods <u>3/</u>		All species	
	M bd.ft.	Percent	M bd.ft.	Percent	M bd.ft.	Percent	M bd.ft.	Percent
10	2,400	15.6					2,400	6.5
12	3,300	21.6	2,700	17.6	1,300	23.1	7,300	19.9
14	2,700	17.8	3,200	20.3	1,100	19.1	7,000	19.2
16	2,600	16.9	3,200	20.2	1,000	17.9	6,800	18.4
18	1,800	11.7	1,800	11.5	600	11.0	4,200	11.5
20	1,300	8.4	1,000	6.2	700	12.1	3,000	8.2
22 & up	1,200	8.0	3,800	24.2	1,000	16.8	6,000	16.3
All classes	15,300	100.0	15,700	100.0	5,700	100.0	36,700	100.0

1/ Principally hemlock and white pine with some pitch pine and red spruce.2/ Principally red, white and chestnut oak, with some hard maple, hickory and black, scarlet and pin oak.3/ Principally red maple, yellow birch and white ash, with some beech, black birch, black cherry, walnut, yellow poplar, sycamore, willow, black locust, basswood and elm.

COLUMBIA COUNTY

Table 9.--Cubic foot volume in merchantable pole-timber stands by diameter classes and species groups

Diameter class (d.b.h.)	Conifers <u>1/</u>			Hickory, oaks hard maple <u>2/</u>			Other hardwoods <u>3/</u>			All species		
	<u>Inches</u>	<u>M cu.ft.</u>	<u>Percent</u>	<u>Tons</u>	<u>M cu.ft.</u>	<u>Percent</u>	<u>Tons</u>	<u>M cu.ft.</u>	<u>Percent</u>	<u>Tons</u>	<u>M cu.ft.</u>	<u>Percent</u>
6	90	2.9	1,900	540	3.8	16,700	330	7.1	8,700	960	4.4	27,300
8	1,240	39.9	25,600	4,830	34.0	149,300	2,100	44.4	54,300	8,170	37.1	229,200
10	970	31.2	20,000	4,540	32.0	140,600	1,420	30.2	36,900	6,930	31.5	197,500
12	430	14.0	9,000	1,940	13.7	60,200	410	8.7	10,600	2,780	12.6	79,800
14 & up	370	12.0	7,700	2,340	16.5	72,500	450	9.6	11,800	3,160	14.4	92,000
All classes	3,100	100.0	64,200	14,190	100.0	439,300	4,710	100.0	122,300	22,000	100.0	625,800

1/ Principally white pine and hemlock with some pitch pine and red spruce.

2/ Principally red, white, and chestnut oak with some black, scarlet, and pin oak, hard maple and hickory.

3/ Principally red maple, aspen, yellow birch and black birch with some white ash, black cherry, basswood, yellow poplar, walnut, sycamore, willow, black locust, elm, red birch, black gum, beech, dogwood and gray birch.

MONTOUR COUNTY

Table 1.--Land use

Land use	Area Acres	Proportion of class Percent	Proportion of gross area Percent
Forest <u>1/</u>			
Tracts less than 10 acres	1,400	6.0	1.7
Tracts 10 up to 50 acres	2,000	8.6	2.4
Tracts 50 acres and over	19,800	85.4	23.7
All forest land	23,200	100.0	27.8
Nonforest			
Crop land <u>2/</u>	42,300	70.1	50.6
Water <u>2/</u>	800	1.3	1.0
Other	17,300	28.6	20.6
All nonforest land	60,400	100.0	72.2
Gross area	83,600	100.0	100.0

1/ Based on aerial photographs taken in 1938.

2/ Bureau of the Census, 1940.

Table 2. Forest area by minor civil divisions

Civil division 1/	Gross area	Nonforest area	Forest area	Proportion gross area in forest	Proportion of county forest land
	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Percent</u>	<u>Percent</u>
Anthony t.	16,500	12,300	4,200	25.7	18.2
Cooper t.	4,500	3,400	1,100	23.5	4.6
Derry t., Washingtonville b.	10,500	8,200	2,300	21.6	9.8
Liberty t.	17,200	11,900	5,300	31.1	23.0
Limestone t.	8,500	7,800	700	8.6	3.2
Mahoning t., Danville b.	6,700	4,100	2,600	38.1	10.9
Mayberry t.	4,500	3,200	1,300	29.6	5.7
Valley t.	10,300	6,200	4,100	40.1	17.9
West Hemlock t.	4,900	3,300	1,600	32.1	6.7
All civil divisions	83,600	60,400	23,200	27.8	100.0

1/ Abbreviations: t = township; b = borough.

MONTOUR COUNTY

Table 3.--Forest area by forest types and conditions

Forest type	Saw-timber stands		Pole-timber stands		Unmerchantable stands		All stands	
	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>	<u>Percent</u>	<u>Acres</u>	<u>Percent</u>
White pine - hemlock	*	*	100	5.9	300	1.4	400	1.7
White pine - white oak - red oak	*	*	*	*	100	0.5	100	0.4
White oak - red oak - black oak	300	100.0	1,600	94.1	20,800	98.1	22,700	97.9
All types	300	100.0	1,700	100.0	21,200	100.0	23,200	100.0

* Negligible.

MONTOUR COUNTY

Table 4. Volume by forest types

Forest type	Saw-timber volume	Total volume
	<u>M bd.ft.</u>	<u>M cu.ft.</u>
Sugar maple - beech - yellow birch	--	--
Aspen - gray birch - pin cherry	--	--
White pine - hemlock	300	120
White pine - white oak - red oak	--	20
Red oak - black oak - white oak	7,800	5,470
Chestnut oak	--	--
Scrub oak	--	--
Other	--	--
All forest types	8,100	5,610

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Table 5.—Forest area by forest conditions and volume-per-acre classes

Forest condition and volume-per-acre classes	Area <u>Acres</u>	Proportion of each condition <u>Percent</u>	Proportion of total forest land <u>Percent</u>
Merchantable:			
Saw-timber stands <u>1/</u> (bd.ft. per acre)			
8,000 and over	20	6.7	0.1
6,000 to 7,999	30	10.0	0.1
4,000 to 5,999	20	6.7	0.1
2,000 to 3,999	230	76.6	1.0
All saw-timber stands	300	100.0	1.3
Pole-timber stands <u>2/</u> (cords per acre)			
10.0 and over	200	11.8	0.9
5.0 to 9.9	1,500	88.2	6.4
All pole-timber stands	1,700	100.0	7.3
All merchantable stands	2,000		8.6
Unmerchantable:			
Saw-timber stands less than 10 acres	1,100		4.7
Pole-timber stands less than 10 acres	3,800		16.4
Young growth stands	16,300		70.3
All unmerchantable stands	21,200		91.4
All forest land	23,200		100.0

1/ In stands 10 acres or larger each acre of which has at least 2,000 board feet (lumber tally).

2/ In stands 10 acres or larger each acre of which has at least 5 cords (400 cubic feet) but less than 2,000 board feet.

Table 6.--Volume by forest conditions and volume-per-acre classes

Forest condition and volume-per-acre classes	Saw-timber volume (lumber tally) 1/ M bd.ft. Percent		Total volume (including bark)			
	M cu.ft.	Percent	M cu.ft.	Percent	Cords	Tons
Merchantable:						
Saw-timber stands (bd. ft. per acre)						
8,000 and over	170	2.1	40	0.7	500	1,200
6,000 to 7,999	210	2.6	70	1.2	900	2,100
4,000 to 5,999	110	1.4	40	0.7	500	1,200
2,000 to 3,999	510	6.2	250	4.5	3,400	7,500
All saw-timber stands	1,000	12.3	400	7.1	5,300	12,000
Pole-timber stands (cords per acre)						
10.0 and over	300	3.7	150	2.7	2,000	4,300
5.0 to 9.9	1,100	13.6	820	14.6	10,800	23,900
All pole-timber stands	1,400	17.3	970	17.3	12,800	28,200
All merchantable stands	2,400	29.6	1,370	24.4	18,100	40,200
All unmerchantable stands	5,700	70.4	4,240	75.6	56,500	124,200
All forest land	8,100	100.0	5,610	100.0	74,600	164,400

1/ Based on the International 1/4-inch rule which closely approximates green lumber tally.

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Table 7.--Volume in merchantable stands by species groups

Merchantable class and species group	Saw-timber volume (lumber tally)		Total volume (including bark)					
	M bd.ft.	Percent	M cu.ft.	Percent	Cords 1/	Percent	Tons 2/	Percent
Saw-timber stands								
Conifers	100	10.0	10	2.5	100	2.3	200	1.7
Oaks and hickory	700	70.0	330	82.5	4,400	82.7	10,200	85.0
Other hardwoods	200	20.0	60	15.0	800	15.0	1,600	13.3
All species	1,000	100.0	400	100.0	5,300	100.0	12,000	100.0
Pole-timber stands								
Conifers	200	17.0	100	10.3	1,200	9.2	1,900	6.7
Oaks and hickory	1,000	70.0	750	77.3	10,000	78.3	28,200	82.3
Other hardwoods	200	13.0	120	12.4	1,600	12.5	3,100	11.0
All species	1,400	100.0	970	100.0	12,800	100.0	33,200	100.0
All merchantable stands	2,400		1,370		18,100		45,200	

1/ Based on 85 cubic feet per cord for conifers and 75 cubic feet per cord for hardwoods.

2/ Based on cubic feet-per-ton converting factors for the principal species.

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Table 9.--Cubic foot volume in merchantable pole-timber stands by diameter classes and species groups

Diameter class (d.b.h.)	Conifers <u>1/</u>			Oaks and hickory <u>2/</u>			Other hardwoods <u>3/</u>			All species		
Inches	M cu.ft.	Percent	Tons	M cu.ft.	Percent	Tons	M cu.ft.	Percent	Tons	M cu.ft.	Percent	Tons
6	10	15.0	300	170	22.0	5,100	30	25.8	800	210	21.7	6,200
8	20	18.0	300	160	21.5	5,000	40	31.7	1,000	220	22.6	6,300
10	20	20.0	400	150	20.0	4,600	30	20.0	600	200	20.6	5,600
12	20	20.0	400	100	14.0	3,300	10	10.8	300	130	13.4	4,000
14 & up	30	27.0	500	170	22.5	5,200	10	11.7	400	210	21.7	6,100
All classes	100	100.0	1,900	750	100.0	23,200	120	100.0	3,100	970	100.0	28,200

1/ Principally white pine, hemlock, and pitch pine, with some Virginia pine.

2/ Principally white, red, and chestnut oak, with some hickory and black and scarlet oaks.

3/ Principally red maple and black birch, with some walnut, aspen, sycamore, willow, black locust, elm, yellow birch, red birch, basswood, black gum, dogwood, and beech.

Anthracite Survey Papers

<u>No.</u>	<u>Title</u>
1	Survey of Forest Employment Possibilities in the Anthracite Region of Pennsylvania*
2	Intensified Protection of Wyoming Valley Forests Against Fire Through Use of Community Labor*
3	Tax Delinquency of Forest Lands in the Anthracite Region of Pennsylvania**
4	Volume Tables for Commercial Timber in the Anthracite Region of Pennsylvania*
5	The Forests of Luzerne County, Pennsylvania, in relation to Employment and Welfare
6	The Population and Employment Outlook for the Anthracite Region of Pennsylvania
7	The Forest Situation in Pike and Monroe Counties
8	The Forest Situation in Dauphin and Lebanon Counties
9	The Forest Situation in Schuylkill and Carbon Counties
10	The Forest Situation in Wyoming and Sullivan Counties
11	The Forest Situation in Northumberland, Columbia and Montour Counties
12	The Forest Situation in Luzerne and Lackawanna Counties***
13	The Forest Situation in Wayne and Susquehanna Counties***

* Supply limited

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*** To be published

